**Water Use Advisory Council (WUAC) Meeting**
**Tuesday, September 15, 2020**
**1:00 p.m.-4:00 p.m.**
**On Teams Hosted by the Department of Environment, Great Lakes, and Energy (EGLE)**

**MINUTES**

1. **Welcome**

   Laura Campbell, Co-Chair, Farm Bureau, welcomed members and guests and shared the logistics for participation in the meeting. She noted she will be sharing the Chair role with fellow Chair Burroughs also facilitating portions of the agenda. Chair Eggers will not be participating in a Chair role today. She then took roll call attendance of members and their alternates.

2. **Roll Call**

   **WUAC Members/Alternates in Attendance:**

   Margaret Bettenhausen, Attorney General
   Bryan Burroughs/Taylor Ridderbusch, Michigan Trout Unlimited
   Christine Alexander, Department of Environment, Great Lakes, and Energy (EGLE)
   Dave Hamilton, The Nature Conservancy Retired
   Doug Needham, Michigan Aggregates Association
   Frank Ettawageshik, United Tribes of Michigan
   Grenetta Thomassey, Tip of the Mitt Watershed Council
   James Clift, Deputy Director, EGLE
   Jason Walther/Kelly Turner, Agricultural Irrigators
   Jim Nicholas, Nicholas-H2O
   John Yellich, Michigan Geological Survey
   Laura Campbell/Ben Tirrell Michigan Farm Bureau
   Buddy Sebastian/Mike Frederick, Michigan Groundwater Association
   Mike Gallagher, Michigan Lake Stewardship Associations
   Pat Staskiewicz/Clyde Dugan, Michigan Section American Water Works Association
   Rachel Proctor, Consumers Energy
   Steve Kohler, Kalamazoo River Watershed Council
   Tammy Newcomb, Michigan Department of Natural Resources (MDNR)
   Tom Zimnicki, Michigan Environmental Council

   **WUAC Members/Alternates Absent:**

   Brian Eggers, AKT Peerless
   Tom Frazier, Michigan Townships Association
   Charlie Scott, Michigan Golf Course Owners Association
   Jason Geer, Michigan Chamber of Commerce
   Kyle Rorah/Nikki Ghorpade, Ducks Unlimited
   Rich Bowman, The Nature Conservancy
   Sue Hanf, Michigan Aggregates Association
   Jim Johnson, Department of Agriculture and Rural Development (MDARD)
   Scott DeBoe, Consumers Energy

**Non-members present:**

Alex Pink, EGLE
Andy LeBaron, EGLE
Bob Otwell, FLOW
Carla Ruest
Christopher Gothberg, EGLE
Christine Spitzley, OHM Advisors
Clay Joupperi, EGLE
Dave Lusch, MSU Retired
Emily Finnell, Office of the Great Lakes
Hannah Arnett, EGLE
Jeremiah Asher, Institute Water Research, Michigan State University
Jim Milne, EGLE
Joel Henry
Korie Blyveis
Laura Doud, MDARD
Mark Seamon
Nathaniel Shuff, EGLE
Ralph Haefner, USGS
Teresa Seidel, EGLE
Todd Feenstra, Tritium, Inc
Grant Poole

3. **Approval of Agenda-Roll Call Vote**
   Agenda approved by consensus as presented. No comments/edits received.

4. **Approval of Minutes-Roll Call Vote**
   The August 18, 2020 minutes were approved by consensus as presented. No comments/edits received.

5. **Public Comment**
   There was no public comment.

6. **Updates**
   a. **Data Collection Committee**

   Burroughs shared the Data Collection Committee's work noting that they started with a review of all previous WUAC recommendations including Environmental Monitoring & Inland Lakes ARI's. The Committee reviewed and discussed each of these at length to gain group consensus of status and needs to fully implement and developed new topic clusters of previous recommendations based on content. (It was noted previous WUAC 2014 recommendations EM 2.4 & 1.7 referred to the Models Committee. All other previous WUAC 2014 IL recommendations largely deferred to a later date before action is warranted.)

**Previous WUAC 2014 recommendation EM2.1 addressed Water Management Data Framework Development.** Multiple existing databases, non-linked, gaps exist, need some gaps filled, adjustments made, and linking; emerging need to integrate water quality info with water quantity info. Haphazard, independent, and limited databases are restricting use of available data to improve water management. There are many details involved in moving this forward from coordination and technical perspectives.

The WUAC recommends that the legislature appropriate $170,000 to be expended over two fiscal years by an external contractor who will compile and derive the Michigan Integrated Water Management Database according to the protocols approved by the Council.

The WUAC will coordinate with the department as work plans are developed and contractors selected. A multi-agency GIS committee, composed of representatives from EGLE, MDNR, MDARD and DTMB, should be established. Through this committee, led by the EGLE, Water Resources Division, each agency will assume stewardship of selected elements of the Integrated Water Management Database and work with DTMB to develop an appropriate maintenance schedule for them. Timeframe two years from start of contracts.

Recommendation accepted.

**Previous WUAC 2014 recommendations EM 1.1, 1.2, 1.6, and 2.3 addressed New Data Acquisition**

Goal is to prioritize new data acquisitions and improvements including streamflow, groundwater, geology, high use areas and critical statewide gaps. Comprehensive needs will require large investments and long-term strategy. Short-term needs include maintenance of existing levels of data acquisition, modest increases, and investment for development of a formal network analysis of gaps for each type, and prioritization scheme among types, and refined cost estimates for acquisition strategies.

**New Data Acquisition –Planning Presented by Burroughs**
Recommendation is to coordinate development of an overall long-term plan for the acquisition of water management data needs. This entails formal analysis and communication of all forms of existing streamflow, groundwater and geological data by type and locations within Michigan, identification of critical data gaps and needs, and development of priority needs and cost-efficient strategies for data collection. Estimated cost is $100,000. Task would be implemented by WUAC, EGLE, USGS, and MGS. Estimated timeframe is 2 years.

Recommendation accepted.

**New Data Acquisition –Streamflow Presented by Burroughs**

USGS gages and miscellaneous streamflow measurements (synoptic measurements) need to increase. Immediate ask is that funds for existing funding levels be secured before the current work project authorization extensions for Clean Michigan Initiative funding end in FY 2022. The recommendation is that existing levels of streamflow data acquisition supporting the program, receive funding in FY 2022 budget, so that they can continue to be collected at the modest

existing levels. Estimated cost is $350,000. Implementing Organizations would be EGLE and USGS. Replacement funding will be needed starting in State FY 2022 budget.

Ettawageshik asked why the Committee did not seek additional funds going forward. Burroughs explained it is an effort in balance. Considering the cost of other requests, the request was moderated with consideration to the State of Michigan's budget.

Recommendation accepted.

**New Data Acquisition –Groundwater Presented by Haefner**

In order to expand Michigan's inadequate groundwater monitoring well network, the recommendation is to implement a plan for a more comprehensive groundwater monitoring well network throughout Michigan. This will be accomplished in a four-task approach of initial evaluation, field evaluation, network implementation, and operation and maintenance. Number of monitoring wells to be decided, but estimate is based off approximately two per county. It is also recommended that EGLE join the USGS' National Groundwater Monitoring Network to increase awareness among various divisions in EGLE of existing groundwater monitoring wells and data to allow for interdepartmental efficiencies. Doing so benefits data organization and use and makes matching funds eligible for maintaining and expanding groundwater monitoring networks. Estimated Cost: $259,000 during the first year; $226,000 in subsequent years subject to cost increases due to inflation. USGS will consider up to 25% match through its' Cooperative Matching Funds program (subject to availability). Implementing organization would be USGS. Program could start immediately, and annual costs would continue for the life of the program.

Turner asked about the potential of utilizing volunteer groundwater monitoring in the National Groundwater Monitoring Network. Burroughs responded that the use of volunteers was considered but it was determined that would not serve the needs of this task. Haefner said this is considered "furnished or citizen provided data" and the Committee has discussed using this type of data going forward. Feenstra asked for the option of private monitoring wells to be used as a cost saving measure.

Further discussion by the Committee was requested.

**New Data Acquisition –Geology #1 Presented by Lusch**

The recommendation is for the legislature to allocate $120,000 to the EGLE, Water Use Program to be expended across two fiscal years by an external contractor who will map the 3D aquifer properties of four counties using the transition probability geostatistical approach. The EGLE, Water Use Program will select Cass County and three other counties where the contractor will develop a 3-D realization of the glacial aquifer materials that extends from the land surface to the top of the bedrock surface (in counties where both glacial and bedrock aquifers are used) or to the bottom of the screened interval in all the wells in counties where the bedrock is not an aquifer. Only counties where the locations of Wellogic well records have been verified shall be selected. Estimated cost is $120,000. The implementing Organization would be EGLE. Estimated Timeframe is 2 years.

Sebastian asked if the 3-D modeling will be based strictly on Wellogic data or will other data be used? Lusch replied the main data will be Wellogic lithology files but if other borehole information available it would be incorporated. Walther asked if Feenstra with his work in Cass County is comfortable with proposal or does it need additional aquifer tests? Feenstra replied it is a multipronged question and it would depend on the area.

Further discussion by Committee was requested.

**New Data Acquisition –Geology #2 Presented by Yellich**

Recommendation is to expand geologic mapping of target areas of Michigan and to continue efforts to collect geologic surveys by county at a rate of approximately two counties per year. These Michigan Geologic Survey (MGS) mapping projects would expand existing geologic information with data from drilling, soil sampling, passive seismic, and gamma-ray logging to produce composite surficial geology maps that include bedrock topography, thickness of glacial deposits and static groundwater elevations. Strong recommendation that the legislature allocates at least $3,000,000 of recurring, operating funds. Implementing organizations would be MGS and EGLE. This is to be considered a need for recurring funding and ongoing implementation for next 10 years.

Recommendation accepted.

**Continuing Well-driller data reporting trainings Presented by Yellich**

Previous WUAC 2014 recommendation EM 2.5 addressed well drillers trainings for data recording to aid the program. The recommendation is to establish ongoing annual efforts to help train well drillers on improved lithology data reporting. The benefit is better drilling data being recorded. This option is more cost-efficient when compared with entirely new data acquisition efforts. Specific recommendation is to continue annual trainings for well drillers, to help support better and more informative data submitted into Wellogic, resulting in more useful and reliable data. Cost is estimated at $1,800 per year for 2 years, total $3,600, for financial coverage of MGS efforts to host these trainings. EGLE staff time for participation would be provided as part of existing core staffing support and programs. MGA will promote and organize trainings. Implementing organizations would be MGS, MGA, and EGLE. Initial timeframe annual for the next two years.

Recommendation accepted. It was noted that the cost should be ongoing for long term support of the project.

**Well-owner outreach on registration completion requirements Presented by Yellich**
In order to help ensure better compliance with well completion reporting, it is recommended a letter be developed for distribution to well-owners, to help them better understand responsibilities for reporting under the program. EGLE, MGA, FB, and MGS would collaborate in developing an informational letter that would be distributed in outreach efforts. There is no cost associated with this activity. The implementing organizations would be EGLE, FB, MGA and MGS. Time frame was not provided.

Eaton noted the letter needs to be edited to be more customer friendly. Recommendation accepted. The Well Driller Training Work Group will revise the letter based on Eaton's comments.

**Data collection and use standards and protocols Presented by Burroughs**
Previous WUAC 2014 recommendations EM 2.2, 1.5, 1.3, and 1.4 addressed data collection methodology, standards, protocols and procedures for use in this program. Many components of this cluster of previous recommendations have been accomplished (e.g., adopting USGS standards, creating new ones for certain data). Some gaps still exist that need to be addressed (e.g., protocols or standards for the use of data for particular uses in this program), and some new ones are likely to emerge.
The recommendation is for the WUAC Data committee to continue to work with agencies to address these gaps in 2021 and to bring recommended fixes to the WUAC for review. There is no additional cost proposed. The timeframe for completion is anticipated to be 2021 as part of the WUAC's ongoing work.

Recommendation accepted.

**Inland Lake ARI's Presented by Burroughs**
Previous WUAC 2014 recommendations IL 2.2a and IL 1.1 addressed inland lakes. Most previous IL recommendations are dependent on these two primary ones being accomplished. EGLE is currently progressing on bathymetric data acquisition tools development. A full framework and data to support ARI assessment for Inland lakes and wetlands is still not functionally possible at this time. Building off previous WUAC recommendations will require development of mechanistic pathway for ARI's, and development of sensitivity classifications for waterbodies, and is expected to require new data acquisition to support it. The recommendation is for EGLE to continue work on this topic. There is no cost or timeline is proposed.

Recommendation accepted.

Synopsis of General Questions and Comments:

Q: Needham asked if the recommendations are presented in order of prioritization.

A: Burroughs replied they are not, they were mostly clustered by topic. They will be prioritized by the Implementation Committee.

Q: Needham noted that four new data acquisition needs are listed. Are those all reliant on having certain steps done or how do they all fit in?

A: Burroughs replied those would be difficult to rank by greatest value. The recommendations are what need to be done.

Q: Staskiewicz ask if Geology #1 and Geology #2 are meant to be competing or complementary?

A: Lusch replied they are separate but complementary recommendations.

Q: Needham asked if we have a system in place to utilize the geology data once we receive it?

A: Burroughs noted that new data requires increasingly sophisticated tools and more sophisticated tools require more data creating a cyclical relationship between data and modeling. Milne noted the tool is not currently set up to use new geology data in real time, however EGLE can use the data for site specific and other reviews. Some of the WWAT's data layers could be updated to incorporate new geology data.

Nicholas noted there are no recommendations concerning biological data.

Burroughs shared they are still using MDNR fish data but not on the scale they would like to.

**b. Models Committee**

Hamilton provided the overview of the Model Committee's recommendations which began on slide 26 of the meeting presentation.

1. **Michigan Hydrologic Framework**
   Recommendation to create a Michigan Hydrologic Framework at a cost of ($850,000), and to create and incorporate 3 regional models ($1,200,000) for a total $2,050,000 over 3 years was received without comment.

   Per Yellich's comments regarding the importance of bringing a glacial geologist into the process of setting up the hydrologic framework, this item will be further discussed at the Models Committee meeting.

2. **Improvements to the Water Withdrawal Assessment Tool (WWAT) and Process:**

a. <u>Update user interface to display registration information</u>
   Recommendation is to update user interface to display registration information. Currently none of the WWAT's data on registrations, their individual impact, or their cumulative impact and the current status of a watershed is available to the user. This information is useful to users and consultants. It will save EGLE staff time and money to provide this information automatically in the WWAT. Cost is unknown because DTMB would do the work. Estimate as high as $50,000.

   Recommended accepted.

b. <u>Identify WMAs that have been modified by SSR</u>
   Recommendation is to identify WMAs that have been modified by the SSR. This information is useful to planners and researchers. EGLE can provide this by developing a periodic report. Or the database could be modified to track and make the information directly available to the public. Cost is unknown because DTMB would do the work. Estimate as high as $50,000.

   This item was removed as a recommendation except for the periodic report currently being provided by EGLE.

c. <u>Provide better estimates of aquifer properties</u>
   Recommendation is to use a GIS method to identify all Water Management Areas (WMAs) that are dominated by unconfined, glacial aquifer conditions. Applying a higher storage coefficient will better reflect the local aquifer characteristics and provide better

estimates of streamflow depletion. The number of well logs with standardized aquifer properties has greatly increased. EGLE has compiled information from irrigation and other aquifer tests. Combined, these will allow the statewide estimates of storage coefficient and transmissivity for both the glacial and bedrock aquifers to be significantly improved. Estimated costs:

- An external contractor ($12,000) to (a) compile and derive statewide estimates of transmissivity for both the glacial and bedrock aquifers; and (b) identify all WMAs statewide that are dominated by unconfined, glacial aquifer conditions.
- DTMB, CSS ($88,000) to (a) incorporate the new estimates of transmissivity into the WWAT and (b) program the WWAT to utilize a storage coefficient of 0.10 in all WMAs that dominated by unconfined, glacial aquifer conditions.

Timeframe to complete 18-months.

It was requested this item receive further discussion.

d. Develop tools to better represent streamflow depletion
A technical workgroup is exploring options for tracking cumulative downstream stream flow depletions and return flows. There is no recommendation at this time.

**3. Incorporate information from calibrated models to screening tool**
Recommend evaluating metamodeling approaches. Develop and test a metamodel with a well calibrated numerical groundwater model. Determine the metamodel's accuracy, and if it can be reliably designed to provide reasonable, yet conservative, solutions in the screening tool. Projected cost is $50,000 if done as part of a model development in MHF, $100,000 if a standalone project. Timeframe one year.

It was requested this item receive further discussion.

**4. Follow up on Cass County model**
The Cass County model will be reviewed at the next WUAC meeting and there is no recommendation at this time.

Synopsis of General Questions:

Q: Turner asked the difference between the Data Committee's Michigan Integrated Water Management Database and the hydrologic framework?

A: Hamilton explained the Hydrologic Framework brings together multiple databases and information in one place to create models allowing for more thorough analysis and easier access.

Q: Turner asked based on the budget for the Cass County study should the budget be increased for incorporating information from calibrated models into the screening tool?

A: Milne stated the total Cass County was $1.5 million spread over three years 50% from the State of Michigan and 50% from private sources. Much of the money was used for data collection.

***5 MINUTE BREAK***

***(At this time, Co-Chair Bryan Burroughs assumed role of meeting Chair.)***

**c. New Topics Committee**

**Water Users Group—Presented by Emily Finnell**

Finnell reported the Water Users Group Planning Committee has met several times to focus on helping the EGLE with the development of a process for successfully convening Water Users Committees and address overarching goals of developing educational materials. They began with the development of a water user's manual.

Given the complexity of Michigan's water rights and laws, the state's water resources, and the potential for conflict, The Water User Group Planning Committee recommends that EGLE develop a Water User Committee (WUC) User Manual to equip WUCs with information, tools, and resources to develop realistic shared solutions to sustainably manage water use. The goal of this manual is to provide steps that will assist the WUCs with successfully developing share solutions for managing water resources.

The WUC manual will be an essential tool for the EGLE Water Use Program and Future WUCs. It will educate people about Michigan's water laws and water rights; the role of state agencies and various water user groups; and strategies and best practices for WUCs to achieve success.

The manual should address the three scenarios where WUCs may be convened:

a. Following a denial by EGLE of a proposed new large withdrawal due to the likelihood of it causing an ARI. The WUC would be convened by the water user(s).
b. Following a determination by EGLE that an ARI is occurring or is likely to occur and no WUC already exists. The WUC would be convened by EGLE.
c. Large quantity water users choose to self-convene to proactively manage local water resources and plan for future use.

Estimated cost $250,000 expected to be funded through the Office of the Great Lakes through the Great Lakes Protection Fund (GLPF). No timeline has been proposed.

Needham asked if it could not be funded through GLPF would it be a request to the Legislature. Finnell replied she does have additional ideas for other funding sources but feels the GLPF has a high likelihood of funding it this year. Needham offered Finnell support in securing needed funding. In response to a question by Sebastian, Milne confirmed it is EGLE's responsibility if there is an ARI if there is no WUC. Recommendation accepted.

**Water Conservation Workgroup—Presented by Kelly Turner**

The group conducted an assessment that compared the WUAC recommendations and the MI Water Strategy recommendations ranking by effort and impact. They then compiled the rankings into a matrix to highlight which recommendations should be prioritized. Two recommendations rose to the top. WC1.2 (Michigan Water Strategy Goal 5, Recommendation

2) and WC 1.3 (Michigan Water Strategy Goal 5, Recommendation 4) They also noted as additional priority WC 2.2 (Michigan Water Strategy Goal 5, Recommendation 6) and subsequent recommendations WC 2.2a-d, with emphasis on WC 2.2 b.

Previous WUAC 2014 recommendation 1.2 recommends based on the water use trends, more focus needs to be placed on conservation and efficiency in the Irrigation Sector. MDARD has developed comprehensive guidance in the form of Generally Accepted Agricultural and Management Practices (GAAMPs), which includes guidance in preparing a water conservation and efficiency plan. MDARD and Michigan State University (MSU) Cooperative Extension should continue to provide and expand training and outreach to the Irrigation Sector to increase the use of these GAAMPs. The MI Water Strategy recommendation is to establish voluntary water efficiency targets for all major water sectors to reduce water use impacts and costs. No cost or timeline has been proposed.

Previous WUAC 2014 recommendations 1.3 states the EGLE should incentivize water conservation and efficiency in the public sector by rewarding the implementation of water conservation and efficiency measures when applying for State funding for water infrastructure projects. This could be accomplished by providing significant points to project plans from water systems that already have a water conservation and efficiency plan, thereby increasing the likelihood that the project will be funded. MI Water Strategy recommendation is to promote innovative technologies that reduce cost and water loss or convert waste products to usable materials. No cost or timeline has been proposed.

Previous WUAC 2014 recommendations WC 2.2 a-d call for Michigan to revise its water conservation program to: 1) further inform and encourage water conservation, and 2) assess and document the nature and extent of water conservation practiced by large water users. It should also define measures of agriculture water conservation and establish voluntary targets for utilizing best management practices (BMPs) that reflect conformance with the Irrigation Water Use GAAMPs in areas of existing or potential water stress. The components and recommendations for 2.2a-2.2d are listed below. No cost or timeline have been proposed for these recommendations.

Previous WUAC 2014 recommendation WC 2.2a calls for Michigan to convene a multi-interest workgroup to identify existing and new opportunities to incentivize water conservation. This effort should target all water users and encourage conservation generally, the adoption of specific practices, and contribution to improved data collection. The MI Water Strategy calls for the enhancement of voluntary water conservation measures through technology and outreach for agriculture to optimize water use while reducing impacts and costs.

Previous WUAC 2014 recommendation WC 2.2b calls for Michigan to encourage water use auditing programs. For public supplies, the water audit should be in conformance with the American Water Works Association (AWWA), M36 Water Audits and Loss Control Programs. Water users should be encouraged to develop a water conservation program based on the results of the audit. While each water user is able to determine the nature and extent of its conservation program, incentives should specifically encourage a component on metrics for evaluating the performance of the program and reporting of results to the EGLE or MDARD. Providing information to employees or water customers on the water user's conservation

programs and policies should also be encouraged. The MI Water Strategy calls for utilizing pricing and funding strategies to support infrastructure improvements while allowing for water conservation.

To facilitate the above set of activities, previous WUAC 2014 recommendation WC 2.2c calls for EGLE and MDARD to develop, or arrange for the development of, templates for water audits and conservation plans. These instruments should be considered by the multi-interest group. The MI Water Strategy calls for incentives and require outcome-based asset management planning for all public water utilities that includes more efficient use of resources.

Previous WUAC 2014 recommendation WC 2.2d states that a multi-interest workgroup should also be charged with developing a process for evaluating the results of the incentive-based system. This process should include metrics and data collection and evaluation methodologies. Ideally, metrics should be based on outcomes (e.g., volume of water conserved) rather than outputs (e.g., number of conservation practices adopted). The MI Water Strategy calls for establishing sustainable funding mechanisms to achieve the Water Strategy goals including water infrastructure management.

Synopsis of General Questions and Comments:

Yellich noted in general land developers need to consider water conservation in their projects.

Q: Zimnicki asked what the intent of 1.3 is?
A: Finnell noted discussions have taken place that the list of recommendations will need to be shortened to put forward in the 2020 report due to the limited time available.

Staskiewicz noted these recommendations are based in part on the WUAC's 2014 work and is meant to incentivize communities to conserve water in exchange for more points on SRF applications.

**d. Implementation Strategies Committee**

Needham said the Implementation Strategies Committee will meet this Friday to review the information and comments provided today as well as the materials and information provided at past meetings. Campbell reiterated that the report will be written in one voice and the recommendations will come from the full WUAC not individual committees.

Ettawageshik asked that it be noted that we do this work because we need to respect the water, even in abundance, and suggests we put a preamble in our report.

Finnell asked for clarification for the Committees who have accepted recommendations regarding what else will be needed from their Committees in order to support the report development. Burroughs said for right now their work is temporarily paused but they can expect to be reengaged soon in discussions and edits as report drafts are developed.

**7. Discussion Regarding Additional Meeting on November 10, 2020**

It was decided to add an additional meeting of the WUAC on November 10, 2020 at 1 p.m.

8. **Next meetings**

Future WUAC meetings will be held on the following days at 1 pm.

- October 20, 2020
- November 10, 2020
- December 15, 2020

9. **Open Comments**

Yellich noted he is on a site where factual data is currently being collected. Campbell asked the group to begin investigating the process for presentation to the legislature when it is formally submitted in December.

10. **Motion to Adjourn**

There being no further business, the meeting was adjourned by Co-Chair Burroughs at 3:50pm.